Section C:2
River Corridor

PROJECT MANAGERS
P.M. Knollmeyer, RL
(509) 376-7435

N.C. Boyter, FH
(509) 373-3725

DOE/RL-2000-76, Rev. 5

SUMMARY

The River Corridor Project (RCP) consists of the following projects: 300 Area Liquid Effluent Facility (LEF) WBS 1.2.3.2, Project Baseline Summary (PBS) WM05; B-Plant, WBS 1.4.1, PBS TP01; 300 Area/Special Nuclear Materials, WBS 1.4.4, PBS TP04; Transition Project Management, WBS 1.4.6, PBS TP12; Accelerated Deactivation, WBS 1.4.8, PBS TP10; 324/327 Facility Transition, WBS 1.4.10, PBS TP08; and Hanford Surplus Facility Program (300 Area Revitalization), WBS 1.4.11, PBS TP14.

PBS WM05 is divided between WBS 1.2.3.1, Liquid Effluents (200 LEF) and WBS 1.2.3.2, 310 TEDF/340 Facility (300 LEF). The 310 TEDF/340 Facility work scope is now included in the River Corridor Project, whereas the Liquid Effluents (200 LEF) work scope has remained in Waste Management Project. For the purpose of performance analysis, PBS WM05 is reported in its entirety in the Waste Management Project, which has the majority of the work scope and funding incorporated in their baseline.

NOTE: Unless otherwise noted, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of March 31, 2001. All other information is as of April 26, 2001.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that two milestones (67 percent) were completed on or ahead of schedule and one milestone is overdue.

NOTABLE ACCOMPLISHMENTS

The 324 Building Deactivation Project — Five of the scheduled twenty-two 3-82B Grout Containers have been loaded out and shipped. Due to suspected weakness of the lifting assembly, the shipments were delayed by a week while a replacement for the lifting spreader bar assembly was fabricated and satisfactorily load tested. The 3-82B shipments have resumed. Additionally, on-site acceptance testing of the Robotics Platform to be used for clean out of the pipe trench is complete and a tour was provided to Paul Kruger, RL Associate Manager for Science and Technology Programs.

327 Building Deactivation Project — While in a minimum safe (min-safe) mode, packaging of chemical waste materials within the facility continued; High Efficiency Particulate Air (HEPA) filter testing was completed; replacement and testing of the bank-of-nine filters was completed; the Area Radiation Monitors removal justification paper was completed; the draft Basis of Interim Operation Implementation document was completed, and preventive maintenance continued.

The 300 Area Treated Effluent Disposal Facility (TEDF) — During the month of March, 5.2 million gallons of wastewater were treated. During the month, the facility successfully completed a planned maintenance outage that included seven preventive maintenance packages, and two additional work activities, including installation of a stainless steel rake in the north clarifier. In addition, cleanout of the 307 Basins was initiated, Facility Authorization Envelopes were revised, Facility Conduct of Operations Applicability Matrices were revised, and the annual update of the 340 Waste Handling Facility Interim Safety Basis was completed.

Accelerated Deactivation Project — The Project has successfully completed shipment of 340 billet boxes of excess uranium (81 percent of the total and approximately 140 this reporting period) to the DOE Portsmouth Site in Ohio. Additionally, the 224-T cell entry readiness interviews and mock-up activities were completed; the updated draft of the IP-2 Safety Analysis Report for Packaging (SARP) was delivered to RL for review and approval, and the biological hazard cleanup of rooms 3 and 4 in 242-B/BL was successfully concluded.

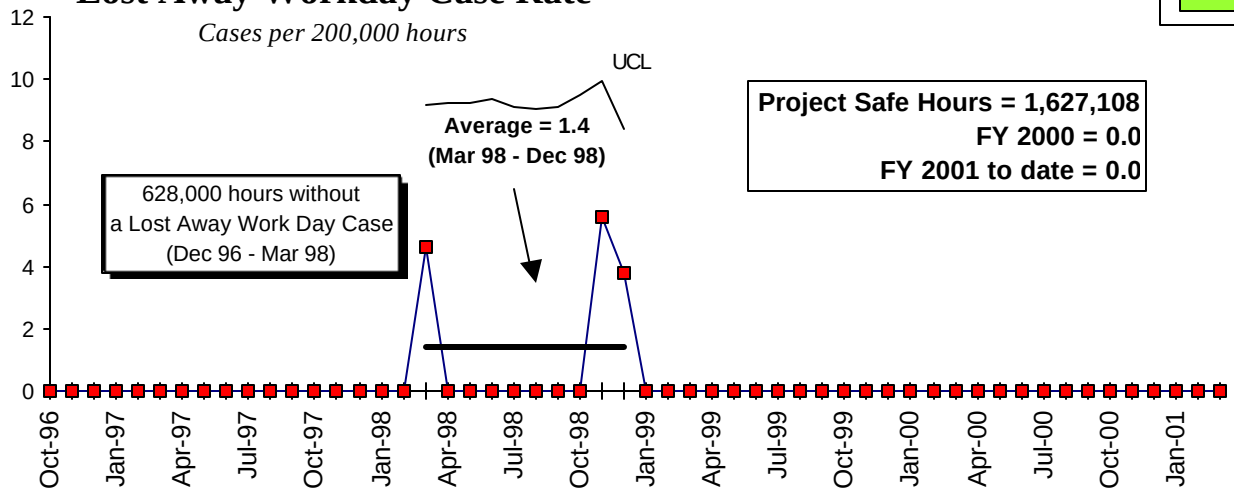
Equipment Disposition Project — The Project Execution Plan for equipment disposition is out for comment, and transition is progressing with no major issues. In addition, Duratek's proposal for disposition of the tall cask car has been received, and the technical review is complete.

SAFETY

The River Corridor Project (RCP) has achieved more than 1.5 million safe work hours since its last lost away workday case. The OSHA Recordable Case Rate for FY 2001 is 2.0, which is slightly above the company goal. The overall rating for RCP is green.

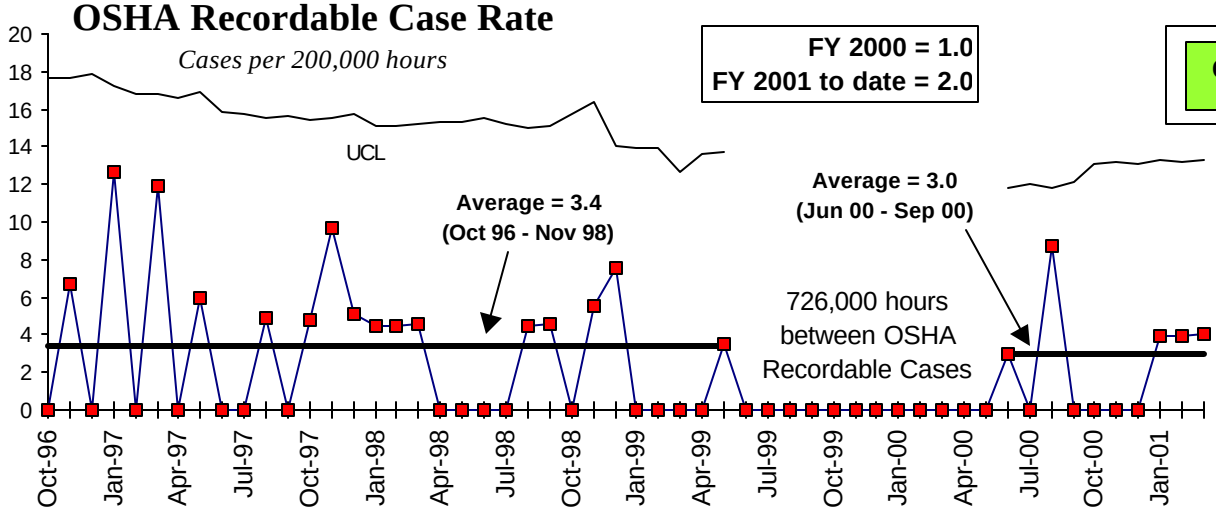
Green

Lost Away Workday Case Rate



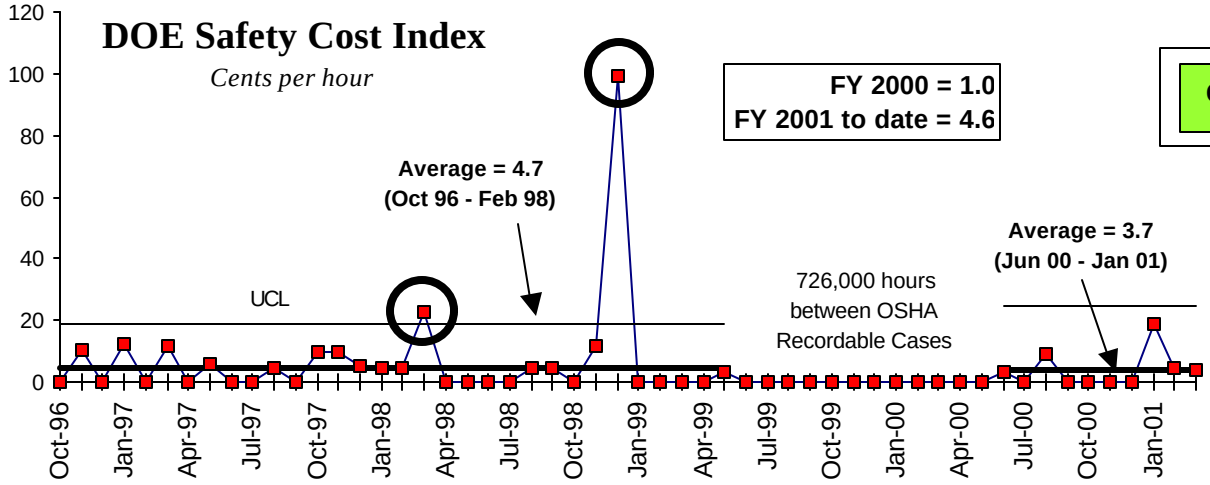
Green

OSHA Recordable Case Rate



Green

DOE Safety Cost Index



ISMS STATUS

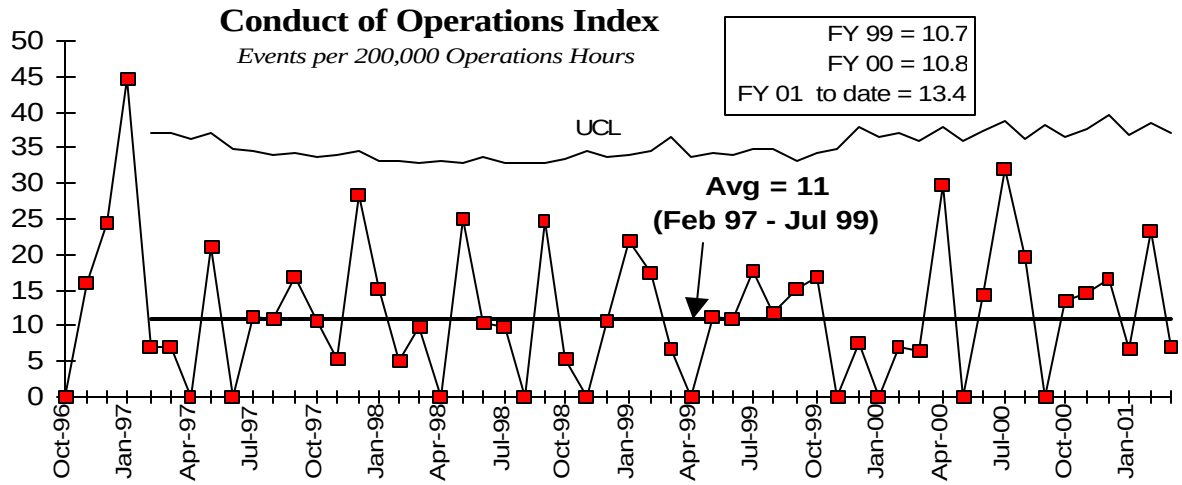
Green

- The Voluntary Protection Program (VPP) self-assessment for the RCP was conducted March 19-22, 2001. The Opportunities for Improvement contained in the report from this assessment will be used for planning continuous improvement activities for the next year. A new RCP VPP Steering Committee has been put in place to assemble the VPP Improvement Plan based on the self-assessment and the open actions contained in the VPP Strategic Plan. Progress continues on schedule to submit the VPP "Star" status application during June 2001, followed by a DOE field review by the end of the fiscal year.

- The RCP ISMS "Sustain and Maintain" process is in place. There are no new ISMS events to report.

CONDUCT OF OPERATIONS

Green



BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Green

- **Technical Review of 327 Hot Cell Removal**— Technology Management, supported by RCP, completed a review of the feasibility of intact removal of the hot cells from the 327 Facility. The review team found the concept of "intact removal" to be feasible and to have potentially significant ALARA, cost, and schedule benefits. The assessment report was issued April 20, 2001. RCP will evaluate the technical and risk analyses presented in the report and determine if a change to the 327 Deactivation Project Baseline is warranted.

Green

- **Remote Size Reduction System** — FH was notified that the Remote Operations Size Reduction System (ROSRS), a remote glove box size reduction system designed and fabricated for use at Rocky Flats (CO), will not be utilized there. FH, in conjunction with RL, Rocky Flats, and EM-50, led an effort to evaluate potential deployment of the ROSRS at Hanford. A recently completed assessment has concluded that the most likely application for ROSRS would be size reduction of 60 gloveboxes and hoods in the 308 Building. However, there are no baseline requirements to begin work in the 308 Facility until at least 2007. The FH assessment concluded that

without a significant influx of accelerated funds, a Hanford deployment of ROSRS appears unlikely. *[No further status to be reported.]*

- **Value Engineering for Configuration Management** — River Corridor Project sponsored a multi-contractor Configuration Management (CM) Value Engineering (VE) Study. Results of the study indicate there are opportunities to refine CM requirements for transitioning facilities that will result in cost savings. The implementation team began to further define CM methods and develop criteria to reduce configuration baseline. Comments on the Design Baseline procedure have been compiled. The final draft has been sent out for review. The procedure will be routed for Unreviewed Safety Question (USQ) determination and approved.

Green

- **Permit By Rule Treatment at 300 Area TEDF** — FH is investigating the potential to treat limited categories of liquid non-radioactive hazardous wastes using the existing capabilities of the 300 Area TEDF, by applying a permit exclusion available within the waste regulations. Depending upon the outcome of ongoing regulatory analysis, treatment of hazardous wastes at TEDF could provide a low-cost option for disposal of some wastes currently sent off-site. A decision on whether to proceed based on the outcome of the regulatory analysis and customer surveys is anticipated in September 2001.

Green

Opportunities for Improvement

Green

- **New EM-50 Funds ($450K) for Robust Manipulator Arm** — Via support from EM-50, RCP's 324 Building will acquire an AEA ARTISAN manipulator arm to support hot cell deactivation. The ARTISAN arm will augment the existing fleet of master slave manipulators by offering longer reach, higher payload capacity (200 pounds –vs.- 30 pounds), greater dependability, and improved access to difficult areas. ALARA/extremity-dose savings are expected due to an anticipated reduction in maintenance and repair. Delivery of the ARTISAN arm to Hanford is expected by the end of FY 2001. Following site testing and operations training, the ARTISAN will be initially deployed in the Shielded Materials Facility hot cells located in the 324 Building.

UPCOMING ACTIVITIES

224-T - Begin 224-T initial entry and characterization by late May 2001. The slip from the original March 2001 date is a result of the Criticality Safety Evaluation Report and the Notice of Construction requiring more time than expected.

Tri-Party Agreement Milestone M-89-02 — The remaining B Cell low-level waste and transuranic debris will be moved away from the 300 Area by July 31, 2001, completing the M-89-02 work scope.

327 Authorization Basis — Implement technical update of 327 Authorization Basis by end of FY 2001. This was slipped from May 2001 due to resource limitations created by the new requirements of the 10CFR830 Nuclear Safety Rule.

300 Area Skyline Initiative - Demolish 3902A, 3902B, and 303-K by September 30, 2001. *[See also External Issue on page 11.]*

Uranium Disposition — Complete the shipment of approximately 235 metric tons of excess uranium billets and approximately 5 metric tons of uranium dioxide to the DOE Portsmouth Site in Ohio, by May 10, 2001. Approximately 135 metric tons of surface-contaminated uranium fuel is to be dispositioned by June 30, 2001. In addition, the disposition of thorium materials located in the 303-K Facility is to be completed by September 30, 2001.

Milestone Achievement

Green

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2001
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	0	0	0	1	0	0	0	1
DOE-HQ	0	0	0	0	0	0	0	0
RL	0	2	0	0	1	1	0	4
Total Project	0	2	0	1	1	1	0	5

Only TPA/EA milestones and all FY 2001 overdue and forecast late milestones are addressed in this report. Milestones overdue are deleted from the Milestone Exception Report once they are completed. The following chart summarizes the FY 2001 TPA/EA milestone achievement and a Milestone Exception Report follows. The last milestone table summarizes the first six months of FY 2002 TPA/EA milestones.

FY 2001 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-89-02	**"Complete Removal of 324 Building Radiochemical Engineering Cells (REC) B Cell Mixed Waste (MW) and Equipment,"**	**Due 11/30/00** — Progress continues to be made in accomplishing the milestone work scope; however, due to technical and operational issues the milestone was not met. A revised schedule was developed with the support of RL and Ecology. The scheduled date for the removal and shipment of mixed waste from B Cell, March 30, 2001, was met. The date for shipment of low-level waste remains at July 31, 2001, as agreed to with the regulators, and shipment of the waste continues on the revised schedule. Green
DNFSB Commitments		
	Nothing to report at this time.	

MILESTONE EXCEPTION REPORT

Number/WBS	Level	Milestone Title	Baseline Date	Forecast Date
Overdue – 1				
TRP-99-901 1.4.10	**EA**	Complete Removal of 324 Radio-chemical Engineering Cells (REC) B Cell Mixed Waste (MW) & Equip.	11/30/00	07/31/01

Cause: Technical and operational issues delayed completion of this work scope.
Impact: Completion date of TPA milestone M-89-02 was not met.
Corrective Action: A revised schedule was developed with the support of RL and Ecology.

FY 2002 Tri-Party Agreement / EA Milestones		
Number	Milestone Title	Status
MX-92-06-T01	**"Complete Disposition for all Site Unirradiated Uranium"**	**Due 12/31/01**— On schedule.
DNFSB Commitments		
	Nothing to report at this time.	

PERFORMANCE OBJECTIVES

Outcomes	Performance Indicator	Status
Restore the River Corridor for Multiple Uses	**FHI-M8 – 300 Area Cleanup**	
	Measure 1: Accelerate 300 Area Cleanup	
	Expectation 1: Deactivate 324/327 Buildings	
	Base: Complete 26.5% remaining 324/327-baseline work.	6.3 percent of the remaining life-cycle work scope completed October 2000 through March 2001.
	Base: Complete B Cell cleanout and shipment of B Cell waste to 200 Area Burial Grounds.	All of the SWDB's and five of the twenty-two 3-82B containers have been loaded out and shipped.
	Stretch: Complete additional 2.5% remaining 324/327-baseline work.	No additional work scope has been performed to date.
	Expectation 2: Disposition surplus facilities	
	Base: Disposition 3902A, 3802B & 303-K by September 30, 2001.	Planning for the demolition of the three structures is on schedule. A decision regarding the historical disposition of the 3902A tower is needed from RL by May 14, 2001.
	Stretch: Disposition 377 Bldg. by June 30, 2002.	No work scope has been performed to date.
	Expectation 3: Disposition uranium billets, uranium dioxide, scrap materials in 200/300 Areas, and 303-K thorium-232 by September 30, 2001.	Completed shipment of 340 uranium billet boxes of excess uranium, (about 81 percent of total), to the DOE Portsmouth Site in Ohio.
	Measure 2: Support RCP Contract Transition	
	Expectation 1:	
	Stretch: Support RCP contract transition by July 1, 2002.	A draft plan for the transition plan was submitted to the VP, River Corridor Project on February 15, 2001.
Transition Central Plateau to	**FHI-M3 – 200 Area Facility Disposition**	
	Measure 1: Disposition Surplus Buildings and Rolling Stock	
	Expectation 1:	
	Base: Decontaminate & Decommission (D&D) 233-S & 233-SA Facilities by September 30, 2004.	Work will be initiated July 1, 2002.

Stretch: D&D 233-S & 233-SA by June 30, 2004.	Work will be initiated July 1, 2002.
Expectation 2: Complete installation of new roofs on PUREX & B Plant by September 30, 2002.	Work will be initiated February 1, 2002.
Expectation 3:	
Base: Disposition contaminated railcars by June 30, 2006.	Efforts continue to disposition one rail car in FY 2001. A final project management plan will be issued the first week of May 2001.
Stretch: Disposition contaminated railcars by August 31, 2005.	Nothing to report.
Super stretch: Disposition contaminated railcars and heavy equipment by September 30, 2003.	Nothing to report.

FY 2001 Schedule / Cost Performance – All Fund Types Cumulative to Date Status – ($000)

Green

		FYTD								
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	PEM	EAC
PBS TP01 WBS 1.4.1	B-Plant	$ 0	0	$ 0	$ 0	0%	$ (0)	0%	$ 0	$ 0
PBS TP04 WBS 1.4.4	300 Area/ Special Nuclear Materials	$ 2,102	$ 1,715	$ 1,743	$ (388)	-18%	$ (28)	-2%	$ 4,151	$ 4,303
PBS TP12 WBS 1.4.6	Transition Program Management	$ 3,217	$ 3,223	$ 2,968	$ 7	0%	$ 255	8%	$ 6,790	$ 6,694
PBS TP10 WBS 1.4.8	Accelerated Deactivation	$ 1,522	$ 1,476	$ 2,149	$ (47)	-3%	$ (673)	-46%	$ 2,968	$ 3,846
PBS TP08 WBS 1.4.10	324/327 Facility Transition	$ 16,925	$ 14,980	$ 14,357	$ (1,945)	-11%	$ 623	4%	$ 35,564	$ 35,476
PBS TP14 WBS 1.4.11	Hanford Surplus Facility Program (300Area Revitalization)	$ 250	$ 254	$ 164	$ 4	2%	$ 89	35%	$ 1,316	$ 1,188
	Total	$ 24,016	$ 21,647	$ 21,381	$ (2,369)	-10%	$ 266	1%	$ 50,790	$ 51,507

Notes: RL-Directed costs (steam and laundry) are included in the PEM BCWS. 310 TEDF/340 Facility performance data is reported under PBS WM05 (Waste Management).

Authorized baseline as per the Integrated Planning Accountability, and Budget System (IPABS) – Project Execution Module (PEM).

FY to Date Schedule / Cost Performance

The unfavorable schedule variance was due to SWDB shipment delays and crane repairs. The favorable cost variance is within established thresholds.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, Fiscal Year to Date (FYTD) Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

Schedule Variance Analysis: (-$2.4M)

300 Area/Special Nuclear Materials — 1.4.4/TP04
Description and Cause: The unfavorable schedule variance is due to delays finalizing the uranium disposition billet procedures, which in turn delayed delivery of the billet boxes by the support organization.

Impact: None.
Corrective Action: Working revised schedule.

324/327 Facility Transition — 1.4.10/TP08
Description and Cause: The unfavorable schedule variance was primarily due to the Steel Waste Disposal Boxes (SWDB) "hot spots" issue (delaying shipment), and the effect of plant work being put on hold while plant personnel were retrained and procedures strengthened.

Impact: Tri-Party Agreement milestone M-89-02 was missed.
Corrective Action: A revised schedule has been developed in concert with Washington State Department of Ecology (Ecology) that moves completion of Tri-Party Agreement milestone scope to March 2001 and July 2001 respectively. The work planned to be complete by March 30, 2001 was completed 8 days ahead of the revised target date. (Remaining TPA milestone M-89-02 workscope to be completed by July 31, 2001).

All other schedule variances are within threshold.

Cost Variance Analysis: (+$0.3M)

Accelerated Deactivation — 1.4.8/TP10
Description and Cause: The unfavorable cost variance is primarily a result of labor overruns in the 2714U Waste Drum Characterization activity due to more complex than planned drum opening, sampling, and repackaging.

Impact: Costs are projected to reach ~$833K which will create a potential overrun of $644K.
Corrective Action: Alternative funding sources are being evaluated to cover this expanded work scope.

Transition Project Management — 1.4.6/TP12
Description and Cause: The favorable cost variance was primarily due to time phasing of planned contract and fee assessment accruals.

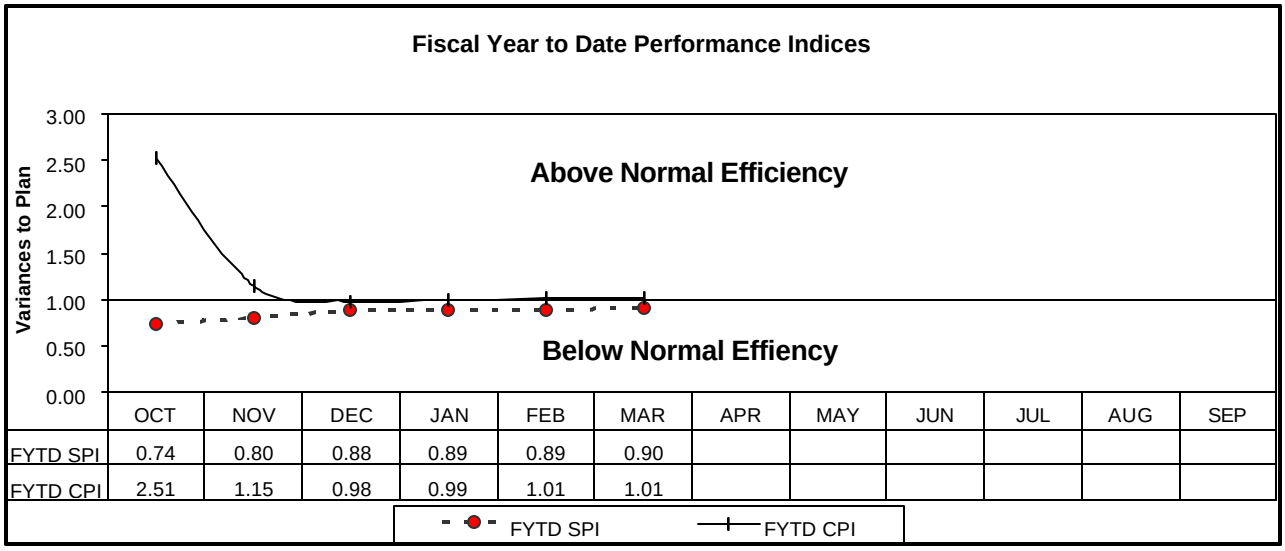
Impact: No Impact.
Corrective Action: Contract costs and fee assessment accruals are expected to increase later in the year.

Hanford Surplus Facility Program — 1.4.11/TP14
Description and Cause: The favorable cost variance was due to costs for contract support not being incurred as planned.

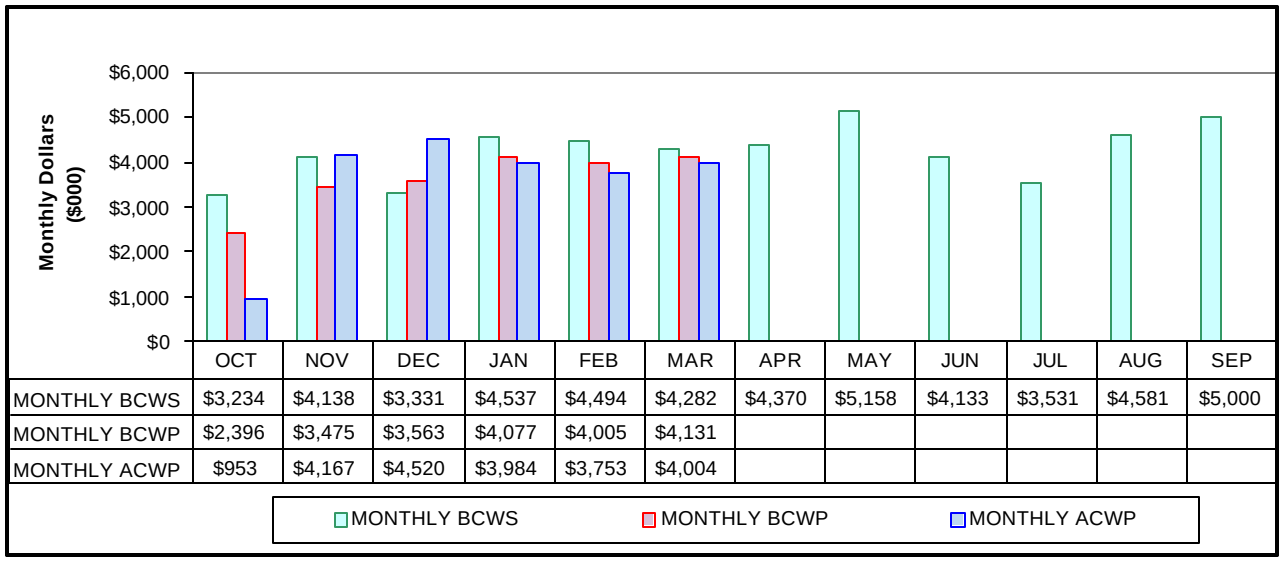
Impact: No Impact.
Corrective Action: The full contract costs are expected later in FY 2001.

All other cost variances are within established thresholds.

SCHEDULE / COST PERFORMANCE (MONTHLY AND FYTD)



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
FYTD SPI	0.74	0.80	0.88	0.89	0.89	0.90						
FYTD CPI	2.51	1.15	0.98	0.99	1.01	1.01						



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY BCWS	$3,234	$4,138	$3,331	$4,537	$4,494	$4,282	$4,370	$5,158	$4,133	$3,531	$4,581	$5,000
MONTHLY BCWP	$2,396	$3,475	$3,563	$4,077	$4,005	$4,131						
MONTHLY ACWP	$953	$4,167	$4,520	$3,984	$3,753	$4,004						

FUNDS MANAGEMENT
FUNDS VS SPENDING FORECAST ($000)
FY 2001 TO DATE

Green

	Project Completion *			Post 2006 *			Line Items *		
	Funds	FYSF	Variance	Funds	FYSF	Variance	Funds	FYSF	Variance
The River									
1.4 **River Corridor** TP01,TP04,TP08,TP10,TP12,TP14,WM05	49,447	49,885	(438)	5,637	5,364	273			
Line Item							124	2	122
Total River Corridor Operating	$ 49,447	$ 49,885	$ (438)	$ 5,637	$ 5,364	$ 273			
Total River Corridor Line Item							$ 124	$ 2	$ 122

* **Control Point**

ISSUES

Technical Issues

Nothing to report.

Regulatory Issues

Issue: The Washington State Department of Health (WDOH) Notice of Construction (NOC) for the 224-T characterization was submitted to WDOH on March 23, 2001, after WDOH reversed an earlier position that a NOC was not needed.

Impact: The delay will likely extend the completion of the entries into the hottest part of the summer.

Corrective Action: The WDOH NOC for the 224-T Characterization is not expected until late May 2001. Entry preparations and readiness activities are complete.

Issue: The Notice of Construction (NOC) for D Cell Pipe Trench has the potential to impact start of D Cell equipment size reduction in April 2001.

Impact: D Cell work will delay starting in April until the NOC is issued. Delay of D Cell will impact work in the pipe trench (August 2001), which may jeopardize spent nuclear fuel shipments (July 2002).

Corrective Action: Current estimate is for the NOC to be issued by May 2001, with potential to be delayed as far as July 2001.

Issue: The Nuclear Safety Management Rule (10 CFR Part 830) requires the submittal of compliant safety basis documentation.

Impact: A gap analysis will be required for all facility safety basis documents against the rule requirements. Identified gaps will need to be closed and the safety basis documents submitted by April 2003. Implementation continues to divert resources from other safety basis activities.

Corrective Action: A Baseline Change Request (BCR) was submitted to provide funding for the gap analysis and to plan for actions to close gaps. Implementation of a DOE approved USQ process is complete, gap analysis documents have been prepared or initiated for most facilities. Based on gaps identified during the gap analysis safety basis documents will require revision.

External and DOE Issues

Issue: The cultural resources review of the 300 Area water towers (skyline demolition) project concluded that demolition of the water towers was an adverse effect. In a March 22, 2001 letter to DOE, the Washington Deputy State Historic Preservation Officer concurred with the review that demolition of the towers is an adverse effect and has recommended that alternatives to demolition of the water towers be explored. Specifically the state has requested that one tower be preserved in place.

Impacts: Preparations for water tower demolition are proceeding uninterrupted, and FH will begin to make contract commitments to vendors by mid-May.

Corrective Action: To mitigate the adverse effect, PNNL under contract to FH, has completed a Historic Preservation Inventory Form (HPIF) for the 3902A water tower as required by the Programmatic Agreement Among the U S Department of Energy Richland Operations Office, The Advisory Council of Historic Preservation, and The Washington State Historic Preservation Office For the Maintenance, Deactivation, Alteration, and Demolition of the Built Environment on the Hanford Site Washington.

DOE Requests

Issue: An opportunity exists for transfer of Pacific Northwest National Laboratory (PNNL) facilities into Project Baseline Summary TP-14, pending resolution of the current DOE-HQ guidance to EM (pipeline suspension). PNNL has funds for FY 2001/2002 Surveillance and Maintenance identified for transfer to FH, but these funds may no longer be available when the suspension ends.

Impact: Efficiencies realized through combining these facilities into TP-14 may be jeopardized.

Corrective Action: A Memorandum of Agreement (MOA) to begin the transfer process was approved by PNNL and FH, and transmitted to RL on March 23, 2001. Pre-transfer activities for facilities are anticipated by June 30, 2001.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

PROJECT CHANGE NUMBER	DATE ORIGIN.	BCR TITLE	FY01 COST IMPACT ($1,000)	SCH	TECH	DATE To FH CCB	FH CCB APR'VD	RL APR'VD	CURRENT STATUS
FSP-2000-002	11/2/99	Mark-42 Project Completion	$304		X	04/05/00			Additional funding requested
FSP-2001-001	10/9/00	Baseline Adjustment to TP08	($496)		X				Draft Prepared
FSP-2001-031	1/22/01	RL-TP08 Milestones for TPA M-89-02	$0	X		3/1/01	3/9/01	3/30/01	Approved / Incorporate 4/01
FSP-2001-032	1/24/01	CAM Reduction in Support of RIIT	($45)			N/A	N/A	N/A	RCP Approved 2/12/01
FSP-2001-033	1/30/01	Increased Scope/Cost for 2714U Drums @ T Plant	$400		X				Draft Prepared / Holding
FSP-2001-035	2/5/01	Life-Cycle Rebaseline for RL-TP10	$0	X					Draft Prepared / Holding
FSP-2001-039	2/14/01	Accelerated Workscope - 327 Facility	$0	X		3/1/01	3/9/01	3/30/01	Approved / Incorporate 4/01
FSP-2001-044	3/22/01	Imple. of Nuclear Safety Rule 10CFR830	$185		X				With ESH&Q
ADVANCE WORK AUTHORIZATIONS									
AWA		303K Demolition	$119		X				Prepare/Submit BCR in April

KEY INTEGRATION ACTIVITIES

- **Collaboration With the 324 B Cell Cybernetix Procurement Project Team and PNNL-** RCP and PNNL Robotics staff continued to interface regarding concurrent procurement contracts for robotic systems from Cybernetix of Marseille, France. RCP purchased a Cybernetix robotic system to support hot cell deactivation, and PNNL/Office of River Protection (ORP) purchased a system to support upgrades to the 200 Area tank waste transfer pits. RCP's process for addressing UL certification requirements helped to reduce the ORP procurement process and schedule. RCP's robotic system arrived at Hanford on March 15, 2001. The PNNL/ORP robotic system arrived at Hanford on April 9, 2001. Lessons learned on both systems will continue to be shared between contractors.